

## ABSTRACT OF THE DISCLOSURE

Catheter devices and methods are provided for enhancing fluid flow through a vascular site occupied by a calcified lesion. The catheter devices of the subject invention  
5 at least include, at their distal end, a proton generating means, and in many embodiments also include a flushing means. In using the subject devices, the distal end of the catheter is placed proximal to the vascular occlusion and protons are generated, e.g., via proton generation from water, in a manner sufficient to reduce the pH of the vascular site in the region proximal to the occlusion. The subphysiologic pH is maintained for a period of  
10 time sufficient for fluid flow through the vascular site to be enhanced. Also provided are kits comprising the subject catheter devices for use in the subject methods.